



1. In a network that includes one or more network devices that have Web
- 2 browsers implemented thereon, the network devices being network connectable to a
- 3 network server, the network also including a data server that is in communication with the
- 4 network server, wherein the network server sends displayable content to the network
- 5 devices, and wherein the one or more network devices may request data that is stored in
- 6 the data server even though the data server itself is not configured to present the data as
- 7 displayable content, a method for rendering data from the data server to create displayable
- 8 content, comprising:
 - 9 an act of the network server receiving a request for displayable content from a first
 - 10 network device;
 - 11 an act of identifying a template that corresponds to the displayable content and that
 - 12 corresponds to a Web browser type that is implemented on the first network device, the
 - 13 template including displayable portions as well as one or more tokens that represent non-
 - 14 displayable data that is stored on the data server;
 - 15 an act of accessing the non-displayable data from the data server;
 - 16 an act of the network server following the identified template to construct the
 - 17 displayable content by performing the following acts:
 - 18 an act of including displayable portions in the displayable content as
 - 19 specified in the identified template;
 - 20 an act of processing the non-displayable data accessed from the data server,
 - 21 the processing functions specified by the identified template, wherein the non-
 - 22 displayable data become displayable upon processing; and
 - 23 an act of including the processed non-displayable data in the displayable
 - 24 content as specified in the identified template; and

1 an act of sending the displayable content to a second network device.

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3 2. The method as recited in Claim 1, wherein the act of sending the
4 displayable content to a second network device comprises the following:

5 an act of sending the displayable content to the first network device, wherein the
6 first and second network devices are the same.

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8 3. The method as recited in Claim 1, wherein the act of sending the
9 displayable content to a second network device comprises the following:

10 an act of sending the displayable content to the second network device, the second
11 network device being different than the first network device that made the request for the
12 displayable content.

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14 4. The method as recited in Claim 1, wherein the displayable content
15 comprises a HyperText Markup Language (HTML) document.

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17 5. The method as recited in Claim 1, wherein the displayable portions
18 comprise HTML tags.

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20 6. The method as recited in claim 1, wherein the request for displayable
21 content comprises information allowing the network server to identify the web browser
22 type that will be used on the network device to display the displayable content.

1 7. The method as recited in Claim 6, wherein the request for displayable
2 content comprises information expressly identifying the Web browser type that will be
3 used on the network device to display the displayable content.

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5 8. The method as recited in Claim 1, wherein the processing functions to be
6 performed comprises processing one or more tokens to convert the non-displayable data so
7 as to be displayable.

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9 9. The method as recited in claim 1, wherein the request for displayable
10 content comprises language information identifying the language to be used in the
11 displayable content, the method further comprising the following:
12 an act of identifying the language based on the language information.

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14 10. The method as recited in Claim 9, wherein the language information
15 comprises an express language indication, the method further comprising the following:
16 an act of identifying the language based on the express language indication.

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18 11. The method as recited in Claim 1, wherein the network server and the data
19 server are physically integrated.

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21 12. The method as recited in Claim 1, wherein the network server and the data
22 server are physically separate.

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1 13. The method as recited in Claim 1, wherein the act of the network server
2 receiving a request for displayable content comprises the following:

3 an act of the network server receiving a request for displayable content via network
4 messaging.

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6 14. The method as recited in Claim 1, wherein the act of the network server
7 receiving a request for displayable content comprises the following:

8 an act of the network server receiving a request for displayable content via
9 receiving a call to an Application Program Interface (API).

1 15. In a network that includes one or more network devices that have Web
2 browsers implemented thereon, the network devices being network connectable to a
3 network server, the network also including a data server that is in communication with the
4 network server, wherein the network server sends displayable content to the network
5 devices, and wherein the one or more network devices may request data that is stored in
6 the data server even though the data server itself is not configured to present the data as
7 displayable content, a method for rendering data from the data server to create displayable
8 content, comprising:

9 an act of the network server receiving a request for displayable content from a first
10 network device, the request indicating a Web browser type that is implemented on the first
11 network device;

12 an act of identifying a template that corresponds to the displayable content and that
13 corresponds to the Web browser type, the template including displayable portions as well
14 as one or more tokens that represent non-displayable data that is stored on the data server;

15 an act of accessing the non-displayable data from the data server;

16 a step for constructing the displayable content so as to represent both the
17 displayable portions and the non-displayable data; and

18 an act of sending the displayable content to the network device.

19
20 16. The method as recited in Claim 15, wherein the step for constructing
21 displayable content comprises the following:

22 an act of including displayable portions in the displayable content as specified in
23 the identified template;

1 an act of processing the non-displayable data accessed from the data server, the
2 processing functions specified by the identified template, wherein the non-displayable data
3 become displayable upon processing; and

4 an act of including the processed non-displayable data in the displayable content as
5 specified in the identified template.

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7 17. The method as recited in Claim 15, wherein the request for displayable
8 content comprises language information that identifies the language to be used in the
9 displayable content.

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11 18. The method as recited in Claim 15, wherein the act of sending the
12 displayable content to a second network device comprises the following:

13 an act of sending the displayable content to the first network device, wherein the
14 first and second network devices are the same.

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16 19. The method as recited in Claim 15, wherein the act of sending the
17 displayable content to a second network device comprises the following:

18 an act of sending the displayable content to the second network device, the second
19 network device being different than the first network device that made the request for the
20 displayable content.

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22 20. The method as recited in Claim 15, wherein the displayable content
23 comprises a HyperText Markup Language (HTML) document.

1 21. The method as recited in Claim 15, wherein the displayable portions
2 comprise HTML tags.
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4 22. The method as recited in claim 15, wherein the request for displayable
5 content comprises information allowing the network server to identify the web browser
6 type that will be used on the network device to display the displayable content.
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8 23. The method as recited in Claim 22, wherein the request for displayable
9 content comprises information expressly identifying the Web browser type that will be
10 used on the network device to display the displayable content.
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12 24. The method as recited in Claim 15, wherein the processing functions to be
13 performed comprises processing one or more tokens to convert the non-displayable data so
14 as to be displayable.
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16 25. The method as recited in claim 15, wherein the request for displayable
17 content comprises language information identifying the language to be used in the
18 displayable content, the method further comprising the following:
19 an act of identifying the language based on the language information.
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21 26. The method as recited in Claim 25, wherein the language information
22 comprises an express language indication, the method further comprising the following:
23 an act of identifying the language based on the express language indication.
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1 27. The method as recited in Claim 15, wherein the network server and the data
2 server are physically integrated.

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4 28. The method as recited in Claim 15, wherein the network server and the data
5 server are physically separate.

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7 29. The method as recited in Claim 15, wherein the act of the network server
8 receiving a request for displayable content comprises the following:

9 an act of the network server receiving a request for displayable content via network
10 messaging.

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12 30. The method as recited in Claim 15, wherein the act of the network server
13 receiving a request for displayable content comprises the following:

14 an act of the network server receiving a request for displayable content via
15 receiving a call to an Application Program Interface (API).

1 31. A computer program product for implementing, in a network that includes
2 one or more network devices that have Web browsers implemented thereon, the network
3 devices being network connectable to a network server, the network also including a data
4 server that is in communication with the network server, wherein the network server sends
5 displayable content to the network devices, and wherein the one or more network devices
6 may request data that is stored in the data server even though the data server itself is not
7 configured to present the data as displayable content, a method for rendering data from the
8 data server to create displayable content, the computer product comprising:

9 a computer-readable medium carrying computer-readable instructions, that
10 when executed at the network server, cause the network server to perform the
11 following:

12 an act of receiving a request for content from a network device, the
13 request indicating a Web browser type;

14 an act of identifying a template that corresponds to the requested
15 content and the Web browser type, the template including displayable
16 content as well as one or more tokens that represent non-displayable data
17 that is stored on the data server;

21 an act of including displayable content in the requested
22 content as specified in the identified template;

an act of processing the non-displayable data accessed from the data server, the processing functions specified by the identified template; and

an act of including the processed non-displayable content in the requested content as specified in the identified template; and

an act of sending the requested content to the network device.

32. The computer program product as recited in Claim 31, wherein the computer-readable instructions are non-displayable data.

33. The computer program product as recited in Claim 31, wherein the computer-readable instructions are not accessible to the network device.

34. The computer program product as recited in Claim 31, wherein the request for content includes an indication of the language to be used when the requested content is sent to the network device.

35. The computer program product as recited in Claim 31, wherein template identification is performed independently of the language to be used when requested content is sent to the network device and wherein an identified template may send data to the network device in more than one language.

1 36. The computer program product as recited in Claim 31, wherein the network
2 server and the network device are the same device.

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4 37. The computer program product as recited in Claim 31, wherein the network
5 server and the data server are the same device.

6
7 38. The computer program product as recited in Claim 31, wherein the
8 computer-readable medium is a physical storage device.

1 39. A computer-readable medium for use in a network that includes one or
2 more network devices that have Web browsers implemented thereon, the network devices
3 being network connectable to a network server, the network also including a data server
4 that is in communication with the network server, wherein the network server sends
5 displayable content to the network devices, and wherein the one or more network devices
6 may request data that is stored in the data server even though the data server itself is not
7 configured to present the data as displayable content, the computer-readable medium
8 having stored thereon a data structure, the data structure comprising the following:

9 a first field representing template layout data, the first field comprising the
10 following:

11 a second field representing data dictionary data that identifies data to
12 be accessed from the data server;

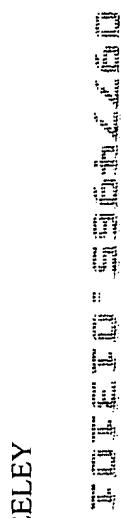
13 a third field representing template constant data that identifies data
14 in the template that will not change; and

15 a fourth field representing functions data that identifies functions
16 associated with the template;

17 a fifth field representing token information table data that identifies
18 locations in the template associated with data dictionary data, template
19 constant data and functions data; and

20 an sixth field representing HTML data that identifies native HTML
21 associated with the template.

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23 40. A data structure as recited in claim 39, wherein the second field includes
24 identification of non-displayable data to be accessed on the data server.



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2 41. A data structure as recited in claim 39, wherein the third field may identify
3 constant information in multiple languages.
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5 42. A data structure as recited in claim 39, wherein the fourth field may identify
6 functions that are stored as non-displayable data.
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8 43. A data structure as recited in claim 39, wherein the fourth field may identify
9 functions that are inaccessible from the one or more network devices.
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